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**Responses to Comments on the Pre-Final Remedial Design Report and
Draft Remedial Action Work Plan
For The Dewatering Pit Solids Removal**

**SIMPLOT PLANT AREA EASTERN MICHAUD FLATS SUPERFUND SITE
POCATELLO, IDAHO**

This document addresses comments received from the U.S. Environmental Protection Agency (EPA), Idaho Department of Environmental Quality (IDEQ), and the Shoshone-Bannock Tribes on the above referenced document. The comments from EPA also covered a Sampling and Analysis Plan (SAP) for collection of samples from the Dewatering Pit to determine whether the solids exhibited RCRA toxicity or corrosivity characteristics. The SAP was revised based on the comments below and samples were collected on October 16, 2002. Therefore, the following responses only address comments on the Pre-Final Remedial Design Report and Draft Remedial Action Work Plan (RD/RA WP). For completeness all EPA's comments are shown, but no responses are provided for those on the SAP.

The original comments are shown in italics and are immediately followed by Simplot's response in regular text. The comments and responses are presented in the following order: EPA, IDEQ and Tribes.

EPA COMMENTS

General Comments

1. *The Record of Decision (ROD) and the RD/RA WP call for the removal of dewatering pits solids and the placement of these solids on the gypstack. Table 1 of the Dewatering Pit RD/RA WP indicates that the solids in the dewatering pit could potentially be Resource Conservation and Recovery Act (RCRA) characteristic waste. Although the focus of the SAP is to determine whether the wastes which will be excavated and placed on the gypsum stack are RCRA hazardous wastes, none of the documents accounts in any way for a positive finding that they are RCRA hazardous waste. Accordingly, the RD/RA Work Plan must include a description of the work proposed in the SAP, a description of disposal options if this material is a RCRA hazardous waste, and a clear and unequivocal statement that the dewatering pit solids will not be placed on the gypsum stack if they are determined to be RCRA hazardous.*

Sampling results have confirmed that the pit solids are not RCRA hazardous. Therefore, no document revisions are required to address the uncertainty associated with the draft RD/RA WP. A description of the sampling event and its findings are provided in Appendix F of the revised report.

2. *The SAP and the Draft Remedial Action Work Plan lack a thorough description of the quality assurance/quality control (QA/QC) measures that will be exercised throughout the project. A description on how data precision, accuracy, completeness, representativeness, and comparability will be measured must be provided. A discussion of the field QA as well as the laboratory QA parameters, including the corrective actions for non-compliant QA parameters. The RD/RA WP should be revised to include a table with all of the control limits for all quality control (QC) samples (e.g., calibrations, matrix spikes/matrix spike duplicates, etc.) for all analytes. While the collection of*



environmental samples for the purposes of waste profiling for proper disposition is typically not subjected to the same rigorous QA/QC criteria as data collected for site characterization or risk assessment purposes, it is still necessary to define the control measures that will be utilized, and to ensure that these measures will be adequate.

The WP has been modified to address the above comment. Specifically, the Construction Management Plan (Section 5.0) has been expanded to provide further details of the environmental and construction QA/QC programs. The expanded section includes tables showing the analytical QA/QC samples and control limits and quantitative measurement objectives for accuracy, precision and completeness. Criteria for evaluating data representativeness and comparability are also identified in this section.

3. *The project description in the SAP and in the RD/RA WP should be expanded to provide more detail regarding the sampling event. Specifically the following information should be included in the SAP:*

*A project schedule, identifying all project milestones;
A rationale for the selection of the sampling locations;
Any field screening to be performed (if applicable);
A summary table listing the total number of samples (including investigative, quality control, and split).*

The WP has been modified to include the requested items. A detailed project schedule has been added to Section 4.1; details regarding sample location selection have been added in a new section (5.2.1 Sample Collection); and a sample summary table has been added in Section 5.2. No field screening will be performed.

4. *The SAP and RD/RA WP should be revised to identify key personnel and to provide a discussion on the project organization and responsibilities associated with the sampling event at the dewatering pit. Specifically the SAP should include the following information:*

- Management responsibilities of all managers who are directly responsible in the project decision-making process;*
- Quality assurance (QA) responsibilities of all personnel responsible for data validation, data assessment, database management and audits;*
- Field responsibilities of all field personnel, including the person who is responsible for identifying and documenting non-conformances through corrective action;*
- Laboratory responsibilities of the laboratory point of contact who is responsible for the oversight of the sample analysis.*
- A project organization diagram that includes all personnel with responsibilities in the project and indicates the lines of authority and communication.*

Section 5.1 of the WP was expanded to include the requested information, and an organization chart was added as Figure 2.

5. *The SAP and RD/RA WP must be revised to specifically reference the Standard Operating Procedures (SOPs) in the text of the SAP and RD/RA WP. Throughout these documents, the text makes generic references such as, "See the SOP in Appendix A". However, there are multiple SOPs submitted in Appendix A. The plans must be revised to specifically address SOPs by number in the text.*

The WP has been revised to cite the SOPs by number.

Specific Comments

1. RD/RA WP Section 2.2, Table 1

To demonstrate that all the waste material has been removed Simplot intends to take confirmation soil samples after the waste is excavated. Zinc has been selected as an indicator parameter to confirm removal of the waste. The performance standard is proposed as 360 mg/Kg, approximately ten percent of the zinc concentration observed in the waste. Confirmation sampling must include all the constituents of concern found in the dewatering pit and the performance standard must be set at background for all these constituents, (see Table 1 for the list and the background concentrations).

This issue was discussed at a meeting between EPA, IDEQ and Simplot in Pocatello on October 17, 2002. Per discussions at that meeting, the report has been revised to include risk-based performance standards for material removal for arsenic and beryllium, which are the two constituents of concern for the Dewatering Pit identified by EPA in their risk assessment. Under CERCLA, remediation decisions are based on risk management decisions, and Simplot believes that requiring remediation for constituents for which no risks exists, or to require remediation to continue after all unacceptable risks have been addressed is not appropriate.

EPA performed the risk assessment for the site and presented estimates of human health risks in the Baseline Human Health Risk Assessment (HHRA). For the Simplot Plant Area, EPA evaluated human health risks for exposure to soils for two general scenarios: (1) current Simplot operations; and (2) a hypothetical future industrial scenario assuming that the Don Plant had been closed and sold, and new commercial or industrial activities initiated. The more conservative, in terms of predicted risks, is the future industrial scenario, because specific work activities cannot be anticipated and so EPA used its standard default exposure assumptions for most exposure factors. For each of the scenarios, EPA evaluated risks associated with two general areas: (1) the gypsum stack and, (2) all other portions of the plant (which includes the Dewatering Pit). For these workers, incidental soil intake estimates are set out in Table 3-19 of the HHRA. For non-carcinogens, EPA identified a reference dose as the lowest reliable no observed adverse effect level (NOAEL) or lowest observed effect level (LOAEL) in the scientific literature, then applying an uncertainty factor, usually ranging from 10 to 1,000, and a modifying factor, ranging from >0 to 10, to allow for differenced between study conditions and the human exposure situation to which the reference does was applied in the HHRA. The potential for risk was estimated by calculating a hazard quotient (HQ), which is the average daily intake divided by the reference dose (acceptable daily intake). A HQ greater than 1 indicates that adverse effects may be expected; a value less than 1 indicates that adverse effects would not be expected. For the constituents associated with the Dewatering Pit, HQs for soil ingestion estimated by EPA in the HHRA for future workers were as follows (HHRA Table K-7):

Constituent	Hazard Quotient
Arsenic	0.019
Beryllium	0.0004
Cadmium	0.0181
Chromium	N/A
Fluoride	0.2466
Phosphorus	N/A
Zinc	0.0006

N/A = EPA did not estimate a hazard quotient.

As shown, all HQs are substantially below 1 and therefore none of the constituents shown in the above table were identified by EPA as constituents of concern for non-carcinogenic effects.

For carcinogens, EPA used the intake equations described above, and then applied low-dose slope factors (the upper 95% confidence of the slope of the dose-response curve from high-dose animal or human studies) to estimate human health risks. Because, the constituents being evaluated are naturally-occurring in the environment, EPA calculated the incremental risk (the difference between the risk associated with exposure to a constituent at the detected concentration and the risk associated with the background concentration). EPA then compared the incremental risk estimates to its acceptable risk range of 1×10^{-6} to 1×10^{-4} to evaluate the need for remediation. An excess cancer risk of 1×10^{-4} was established by EPA in its Record of Decision as the cleanup goal for soils at the FMC and Simplot Plant Area portions of the site. As described in Section 2.2 of RD/RA WP, using the approach and assumptions used in the HHRA, it is estimated that the incremental cancer risk is 2.2×10^{-6} for arsenic and 3.2×10^{-6} for beryllium for the future commercial/industrial site use scenario. These were the only constituents for which EPA estimated excess cancer risks above 10^{-6} and they are the constituents of concern for the pit. These estimates are conservative, because they assume a worker is exposed to the pit solids 250 days per year for 25 years, which, given the size of the pit is an unlikely scenario. It is noted that these risks are already below the cleanup goal set by EPA in the Record of Decision. However, using a 10^{-6} incremental cancer risk as the objective for the remediation (consistent with EPA's approach in the HHRA) and the approach and assumptions used in the HHRA, results in removal confirmation levels of 11 mg/kg arsenic and 2.4 mg/kg beryllium. These risk-based values are appropriate because lower concentrations may result in material removal to be required after potential human health risk levels are below the acceptable range. The report has been modified to set confirmation removal concentrations to these levels for arsenic and beryllium.

2. RD/RA WP Section 2.2, Table 1

Selenium is not included in the list of contaminants of concern. Selenium results should be included in Table 1. Selenium should also be evaluated as part of the confirmation sampling protocol.

As discussed above, selenium was not identified by EPA as a contaminant of concern for Simplot Plant Area soils. The HQ estimated by EPA for future workers was 0.0015 (Table K-7 of the RA); well below any level that might require remediation under CERCLA.

The background level and sampling data for selenium have been added to Table 1. Material removal confirmation sampling will be based on arsenic and beryllium as discussed in the preceding comment response.

3. RD/RA WP Section 3.1

The plan should describe the specific criteria by which native soils will be distinguished from fill material, and how these visual determinations will be made in the field (i.e., Munsell Color Chart). Furthermore, while the residuals solids are "gray" and native soils are "light-brown", it is unclear if there is a continuous gradation between.

Inspections of the Dewatering Pit conducted on August 8, 2002 found that the residual solid material forms a distinct layer above the preexisting ground surface and that a continuous gradation does not exist. This is consistent with expectations based on the construction of the pits and subsequent use with pumping of phosphate ore residuals and solids dewatering. The boundary between the solids and underlying soils is sharp and the materials are visually distinct. However, to aid in this identification, the WP has been modified to include procedures for assigning Munsell Color Chart color identification numbers to the pit solids and underlying native soil. Because colors can change with moisture content, the identification of colors associated with the pit solids and underlying native soils will be made and documented during remedial action construction, prior to initiation of material excavation. In any event, removal will be confirmed by sampling and analysis for arsenic and beryllium, as discussed above.

4. RD/RA WP Section 4.4, Transportation and Disposal of Dewatering Pit Solids

The last paragraph of this section states that the Dewatering Pit solids are not classified as hazardous wastes and they will not be transported off-site. This paragraph must be removed and a reference to the SAP for determining whether the material is hazardous waste and/or constituents must be included.

Sampling results have confirmed that the pit solids are not classified as hazardous wastes. This section has been modified to include a reference to the analytical testing performed in accordance with the SAP to characterize the material. Also, a description of the sampling event and its findings are provided in Appendix F of the revised report.

5. RD/RA WP Section 2.2, SAP Identify the Decision

Since acidic wastes were originally placed into the pit, excavated material should also be tested for the characteristic of corrosivity (by Method 9040) to determine if the wastes are RCRA hazardous (40 CFR 261.22).

The solids were tested and found to be non-corrosive. This information has been added to Section 2.2.

6. SAP Section 3.0 Sample Collection; RD/RA WP Section 3.2

The description of the sampling procedures is a critical portion of the SAP, but this section lacks sufficient detail. This section of the SAP should be revised to provide detailed, stepwise sampling procedures. Specifically, each sampling procedure should include the following:

- *All equipment necessary to sample the matrix;*
- *Clarification as to whether a standard EPA method will be used for collection;*

- Detailed procedures to collect investigative samples;
- Description of the sample containers to be used, including the container volumes, and the number of containers required for each analysis;
- Indication of the volume of each grab sample to be taken; and,
- Assurance that contaminant-free sample containers will be used, including a description of how such containers will be obtained and handled.
- Sample preservation.

The WP has been modified to include the listed information in a new section, 5.2 Confirmation Sampling Methods.

7. SAP Section 4.1 Sample Collection and RD/RA WP Section 3.0

This section of the SAP states that "Once all of the samples from an individual pit are collected the sample will be thoroughly mixed in the bowl and at least 500 grams placed in a plastic zip-lock bag." Clarify this statement, and justify using a "plastic zip-lock bag" as the sample container. Indicate how such bags are ensured "contaminant-free" prior to sampling. The SAP should be revised to identify the sample containers (polyethylene or glass for metals), along with the container volume.

The text in this section also states that "Immediately following sample collection, samples will be labeled and prepared for shipment to the analytical laboratory" and refers to an SOP in Appendix A. However, SOP No. 2 in Appendix A does not discuss how the individual samples will be labeled. Revise the SAP to discuss all sample labels or tags that will accompany each sample container. This ensures that if the chain-of-custody form becomes separated from the samples that samples can be identified by the sampling and analysis teams. Each sample label should include the field sample number, location, date/time of collection, type of preservation (if any), and type of analysis.

Section 3.2 of the RD/RA WP must be revised to include the information above.

The WP has been modified to include a new section, 5.2 Confirmation Sampling Methods, which addresses the comment.

8. SAP Table 2 Analytical Methods, Sampling Preservation and Holing Times; RD/RA WP Section 3.2

The following should be addressed in Table 2 of the SAP and be included in the RD/RA WP:

- *The most recent updates of each analytical method should be used, or rationale should be provided for using any alternative methodology. Specifically, the table should be revised to identify "6010B" for the analysis of arsenic, barium, cadmium, chromium, lead, selenium, and silver and "7470A" for the analysis of mercury.*
- *The holding time requirements for TCLP metals extraction (180 days to extraction of the samples).*

This information is missing from the RD/RA WP and should be included.

The WP has been modified to specify Method 6010B.

9. SAP Section 5.2 Field Quality Control Procedures

The text of this section states that "a duplicate sample will be collected from either the East or West Dewatering Pit cells." The SAP should clearly identify all samples and the locations to be sampled. Revisions to the SAP should identify which of the Dewatering Pit Cells will be sampled.

The SAP also states that the control limit for duplicate analysis is 30 percent. Indicate how this relative percent difference (RPD) limit was determined.

10. SAP Section 5.3 Laboratory Quality Control

The first paragraph of this section indicates that the laboratory will perform the analyses according to the referenced methods and will operate under an "internal Quality Assurance Management Plan." The SAP should be revised to include this plan and ensure that the laboratory will be able to meet the quality assurance requirements outlined in the plan.

The last paragraph of Section 5.3 states that "Any data not meeting the quality requirements of this plan will be flagged to identify them to data users and are appropriately qualified." Clarify this statement and revise the SAP to identify the person responsible for ensuring that the quality requirements are met and provide definitions of the flags and qualifiers to be used on the data.

11. SAP Section 5.5 Data Reduction and Validation; RD/RA WP Section 3.2

The plans should be revised to provide the specific data reduction procedures for all laboratory data. At a minimum, the reduction procedures discussed in the analytical methods must be referenced.

These documents should be revised to clarify whether data validation will be performed. If the results are to determine whether the samples are RCRA hazardous for disposal purposes, a formal validation is not necessary. However, if data validation is to be performed, then the plans should be revised to provide more detail on these validation procedures. For example, it is unclear who will perform the data validation on the sample data. It is also unclear what specific criteria will be used to evaluate the data (simply assessing accuracy is insufficient). Specifically, the plans should be revised to include the following information:

- Specification of the verification process of every quality control measure used in the field and laboratory (i.e., calibration, blanks, duplicates, etc.);*
- The percentage of data to be validated and who will perform the validation;*
- A definition of all qualifiers used in validation; and,*
- Contents of a validation report.*

The last bullet in Section 5.5 of the SAP states that if data "error or deficiencies are found, the laboratory and/or field sampler will be contacted and the appropriate corrective action will be taken." The SAP should be revised to clarify this statement. Indicate how corrective action may be taken by the field sampling team when all data have been analyzed and evaluated. Indicate who determines the "appropriate" corrective action. Lastly, ensure that any such procedures are documented and submitted with the project files.

The last sentence of Section 5.5 of the SAP states that "When the review is completed and it is determined that the data are complete and reasonable, the results will be reported to the Agencies." This sentence should be clarified. Since data completeness has not been defined in the SAP, indicate how completeness is determined and measured. Additionally, clearly define what is determined to be "reasonable."

A new section, 5.3.1 Environmental (Confirmation) Sampling, has been added to the WP to include the information identified in the comment.

12. SAP Section 6.0 Reporting

Section 6.0 of the SAP should be revised to discuss the specific data deliverables that will be included in the "monthly progress report." -Finally, indicate if a "final report" will be submitted and if so, identify the contents of such a report.

13. SAP Appendix A and RD/RA WP Appendix C, SOP No. 2. Section 2.1 Packaging Materials

This section of the SOP states that "coolers or other shipping containers" may be used. The plans should indicate what these other shipping containers may be and ensure that such containers insulate and maintain the samples to proper temperatures.

The SOP has been modified to state that coolers only may be used.

IDEQ COMMENTS

General Comments

- 1. The IDEQ would request that all the listed constituents of concern be analyzed for in the confirmation samples and the performance standard for remediation be set at background or less than background for all constituents. This would allow for a comparison of each constituents concentration at depth and a more defensible and reasonable guideline for remedial effectiveness. In addition, selenium is absent as a constituent of concern. IDEQ would like confirmation that its absence is the result of soils samples taken from this area show selenium concentrations being below background concentrations.*

This comment is addressed in the responses to EPA specific comments No. 1 and No. 2 above.

- 2. Once the solids are removed from the Dewatering Pit, they will be transported to Simplot's lower gypsum stack. As the gypsum stack grows the Dewatering Pit solids will be covered with gypsum. It is evident that the excess phosphate ore would be Bevil exempt wastes. The gypsum stack is Bevil exempt as well. The IDEQ, however is concerned that the solids precipitated by pH adjustments are not Bevil exempt wastes and could therefore jeopardize the Bevil exemption of the gypsum stack.*

Sampling results have confirmed that the pit solids are not hazardous wastes. Therefore, relocation of the pit solids will not jeopardize the Bevil exemption of the gypsum stack.

TRIBES COMMENTS

General Comments

1. *Simplot proposes to sample the excavation site after removal of pit solids. However the workplan proposes inadequate sampling to confirm that the pit solids have been excavated. As proposed (in Section 3.2) only four composite samples are to be analyzed from the two large pits, and only one composite sample from the smaller pit. Nine samples appears to be inadequate for an area of 41,750 Square feet. We recommend that sampling include at least 10 samples from each pit and that they not be composited, and that they include the full suite of constituents for analyses. (Arsenic, Beryllium, Cadmium, Chromium, Fluoride, Phosphorous, and Zinc).*

As discussed in the response to EPA specific comment No. 1, the goal of the remediation is to mitigate the potential for human health risks due to exposure to residual solids in the pits. Evaluation of risk typically uses averaging techniques (by compositing of samples or statistical analysis of a series of grabs) to estimate exposure point concentrations. This approach is intended to take into account that the exposure scenarios being evaluated are long-term (25-years for the Eastern Michaud Flats site) and that exposure will occur over a wide area rather than at a single location. This is the logic that underlies the sampling approach and Simplot believes that it is consistent with the goals of the remediation and appropriate. Based on this, and the fact that EPA and IDEQ agree with the approach, no changes have been made to the document, except to change the constituents to be analysed to arsenic and beryllium, as discussed in the response to EPA specific comment No. 1.

2. *The risk assessment should not be limited to risks due to ingestion. A short-term risk may be associated with inhalation of fugitive dust, both during excavation, transport, and unloading at the gypsum stacks themselves. The risk assessment should be revised accordingly.*

The risk assessment described in the report was a summary of the findings of EPA's Baseline Human Health Risk Assessment performed in 1996. Simplot is not aware of any evaluation performed by EPA to evaluate potential acute health risks at the site. Dust control during remedial actions are typically handled by compliance with applicable or relevant and appropriate requirement, such as described in the next comment and response. No changes were made in response to the comment.

3. *The Workplan is inadequate with respect to providing plans to protect workers and the public from fugitive dust during the excavation, and transport of the solids to the gypsum stack. The Workplan should include a plan to carry-out EPA Method 9 Visual Emissions Evaluation (VEE) from certified evaluators each day that the 6,800 cubic yards of material is transported to the gypsum stacks, with additional controls specified if VEE reading exceed 20%. VEE reports should be submitted to EPA and IDEQ. A contingency plan should be in place, where the truck transport of pit material across highway 30 is stopped when high winds or other conditions obscure vision for motorists.*

Additionally, Simplot should consider covering the trucks during transport, as appropriate in this PM-10 Non-attainment area. Section 4.5 does not give sufficient detail on limiting fugitive dust. What is the watering schedule at the worksites?

Section 4.5 has been modified to include visual assessments of the fugitive dust emissions by Methods 22 and 9 during construction. Section 4.3 has been modified to require covering of trucks during transport. Section 4.5 has been clarified to state that: 1) perimeter and excavation watering will be continuously available and used as necessary to control visible dust, and 2) wetting of haul roads will be performed hourly or as otherwise necessary to control visible dust. Contingency actions in the unlikely event of extreme dust emissions from remedial action activities that are beyond Simplot's control have been added to Section 4.4.

Specific Comments

1. Construction Reporting (Section 5.3)

The information in this section should be revised to include daily EPA method 9 Visible Emission Evaluations (EVVs), at the pit area, the crossing of Highway 30, and at the truck unloading area at the gypsum stacks.

The construction reporting section has been modified to include documentation of the fugitive dust observations records.

2. Regrading (Section 3.3)

Simplot proposes that no vegetative cover be necessary, because they plan on constructing a lined pond in the near future in this area. Simplot should revise this section to give a reasonable time-period to start the construction of the new pond, with a contingency plan to place a vegetative cover over the pit area, if construction of the new pond does not start within a reasonable period after the pit remedial action is complete (nine months?).

The document has been revised to state that Simplot will prepare a revegetation plan for the Dewatering Pit area if a construction schedule for the pond has not been established by 12 months after the remediation of the Dewatering Pit is complete.

These three pits typically receive water from the West Over-Flow ponds. Simplot should describe where this water will be directed during the period between decommissioning the dewatering pits and the construction of a new pond in the area.

As discussed in Section 2.1, the dewatering pits were constructed and briefly used to receive pipeline solids during startup of the of the ore slurry pipeline in 1991 and for occasional pH adjustment of irrigation waters since that time. The pits have never received process waters from the Don Plant (e.g. West Overflow Pond), and no temporary ponds or other holding structures will be needed.